

Title (en)
PHASE CHANGE SENSOR

Title (de)
PHASENÄNDERUNGSSENSOR

Title (fr)
DETECTEUR DE CHANGEMENT DE PHASE

Publication
EP 1644473 B1 20140115 (EN)

Application
EP 04785794 A 20040528

Priority
• US 2004016999 W 20040528
• US 47563703 P 20030603

Abstract (en)
[origin: WO2005003821A2] A device is disclosed which is a highly sensitive and selective sensor. The device is comprised of a sensor material secured into a fixed position on substrate, a deformable arm and a signaling component which creates a detectable signal in response to movement of the arm. The sensitivity of the device is enhanced by using a sensor material which undergoes a dramatic change in volume which may be accompanied by a phase change in response contact with a target such a molecule of interest. The selectivity of the device is enhanced by incorporating highly specific binding receptors (e.g. antibodies) into the sensor material which receptors bind to specific targets (e.g. peptide epitopes). The binding of the target molecule to the receptor causes the sensor material to change dramatically in volume thereby moving the arm causing the signaling component (e.g. a piezoresistor) to create a detectable signal (e.g. change in resistance) thereby indicating the present of the target

IPC 8 full level
G01N 33/543 (2006.01); **C12M 1/34** (2006.01); **C12M 3/00** (2006.01); **C12Q 1/68** (2006.01); **G01N 7/00** (2006.01); **G01N 21/00** (2006.01); **G01N 25/18** (2006.01); **G01N 31/22** (2006.01); **G01N 33/53** (2006.01); **G01N 33/544** (2006.01); **G01N 33/545** (2006.01); **G01N 33/546** (2006.01); **G01N 33/549** (2006.01); **G01Q 60/38** (2010.01); **G01Q 70/18** (2010.01)

IPC 8 main group level
G02B (2006.01)

CPC (source: EP US)
G01N 33/54373 (2013.01 - EP US)

Citation (examination)
RICHARD A. GEMEINHART ET AL: "pH-sensitivity of fast responsive superporous hydrogels", JOURNAL OF BIOMATERIALS SCIENCE, POLYMER EDITION, vol. 11, no. 12, 1 January 2000 (2000-01-01), pages 1371 - 1380, XP055025709, ISSN: 0920-5063, DOI: 10.1163/156856200744390

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DOCDB simple family (application)
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